Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Original) A method of finding the time offset between signals transmitted by at least one of a plurality of transmitters of a communications network and received by a receiver attached to a terminal, the method comprising the steps of

(a) creating at the terminal a section of a representation of the signals from the transmitters received by the receiver;

(b) creating a first section of a representation of the signal transmitted by a first of said transmitters, and creating a second section of a representation of the signal transmitted by a second of said transmitters, each of which sections overlaps in time with the section created at the terminal;

(c) creating a first function dependent on the first section and the section created at the terminal in step (a), and convolving the first section with the first function to form a blurred estimate of the signal received at the terminal from the first transmitter;

(d) creating a second function dependent on the first section and the section created at the terminal in step (a), and convolving the terminal section with the second function to form a blurred terminal section;

(e) subtracting the blurred estimate from the blurred terminal section to produce a blurred residual representation; and

(f) estimating the time offset between the blurred residual representation and the second section.

2.   (Original) A method according to claim 1, wherein the first function, which is used to create the blurred estimate, is a convolution of the first section of a representation of the signal transmitted by a first of said transmitters (the 'first section') with a cross-correlation of the section of a representation of the signals from the transmitters received by the receiver (the 'terminal section') and the first section.

3.   (Original) A method according to claim 2, wherein the cross-correlation is a windowed cross-correlation created by enhancing the significant components of the cross-correlation function.

4.   (Currently Amended) A method according to ~~any of claims 1 to 3~~claim 1, wherein the second function, which is used to create the blurred terminal section, is a convolution of the terminal section with the auto-correlation profile of the first section.

5.   (Currently Amended) A method according to ~~any of claims 1 to 4~~ claim 1, wherein the blurred residual representation is cross-correlated with the second section of a representation of the signal transmitted by a second of said transmitters (the 'second section') to estimate the time offset.

6.   (Currently Amended) A method according to ~~any of claims 1 to 5~~ claim 1, wherein the first and second sections are created at the respective first and second transmitters.

7.   (Currently Amended) A method according to ~~any of claims 1 to 5~~ claim 1, wherein the first and second sections are created in one or more sampling devices attached to the respective transmitters or located elsewhere.

8.   (Currently Amended) A method according to ~~any of claims 1 to 5~~ claim

1, wherein the first and second sections are created by computer programs running anywhere in the communications network, or elsewhere, using information supplied from the network about the transmitted signals.

9.   (Original) A method of finding the time offset relative to a reference within the terminal of a component of a signal transmitted by one of a plurality of transmitters of a communications network and received by a receiver attached to a terminal, the method comprising the steps of

(a) creating at the terminal a section of a representation of the signals from the transmitters received by the receiver (a "terminal section");

(b) creating a section of a representation of the signal transmitted by an other transmitter (a "transmitter section"), which section overlaps in time with the section created at the terminal;

(c) creating a first function dependent on the terminal section and the transmitter section created in steps (a) and (b), and convolving the terminal section with the first function to form a blurred estimate of the signal received at the terminal from the other transmitter;

(d) creating a second function dependent on the terminal section and the transmitter section created in steps (a) and (b), and convolving the terminal section with the second function to form a blurred terminal section;

(e) subtracting the blurred estimate from the blurred terminal section to produce a blurred residual representation; and

(f) estimating the time offset between the blurred residual representation and the signal component.

10.   (Original) A method according to claim 9, wherein the first function, which is used to create the blurred estimate, is a convolution of the transmitter section with a cross-correlation of the terminal section and the transmitter section.

11.   (Original) A method according to claim 10, wherein the cross-correlation is a windowed cross-correlation created by enhancing the significant components of the cross-correlation function.

12.   (Currently Amended) A method according to ~~any of claims 9 to 11~~ claim 9, wherein the second function, which is used to create the blurred terminal section, is a convolution of the terminal section with the auto-correlation profile of the transmitter section.

13.   (Currently Amended) A method according to ~~any of claims 9 to 12~~ claim 9, wherein the known components of the transmitted signals ~~in the second aspect of the invention~~ are pilot codes.

14.   (Currently Amended) A method according ~~to any of claims 9 to 13~~ claim 9, wherein, before the time offset is estimated, the known signal components of the transmitted signals are blurred by convolution with another function.

15.   (Currently Amended) A method according to ~~any of claims 9 to 14~~ claim 9, wherein the section of the representation of the signals transmitted by a transmitter is created at that transmitter.

16.   (Currently Amended) A method according to ~~any of claims 9 to 14~~ claim 9, wherein the section of the representation of the signals transmitted by a transmitter is created in one or more sampling devices attached to the respective transmitters or located elsewhere.

17.   (Currently Amended) A method according to ~~any of claims 9 to 14~~ claim 9, wherein the section of the representation of the signals transmitted by a

transmitter is created by a computer program running anywhere in the communications network, or elsewhere, using information supplied from the network about the transmitted signals.

18.   (Currently Amended) A method according to ~~any of claims 1 to 14~~ claim 9, wherein the section of the representation of the signals received by the receiver at the terminal is recorded in the terminal before being sent to a computing device.

19.   (Currently Amended) A method according to ~~any of claims 1 to 14~~ claim 9, wherein the section of the representation of the signals received by the receiver at the terminal is transferred in real time to the computing device and a recording made there.

20.   (Currently Amended) A method according to ~~any of claims 1 to 19~~ claim 9, wherein the representation of the signals received by the receiver attached to the terminal may be a digitised version of the received signals converted first to baseband in the receiver.

21.   (Currently Amended) A method according to ~~any of claims 1 to 20~~ claim 9, wherein the representation of the signals transmitted by a transmitter may be a digitised version of the transmitted signals converted first to baseband.

22.   (Canceled)

23.   (Original) Apparatus for finding the time offset between signals transmitted by at least one of a plurality of transmitters of a communications network and received by a receiver attached to a terminal, the apparatus

comprising

(a)   processing means arranged to create at the terminal a section of a representation of the signals from the transmitters received by the receiver;

(b) processing means arranged to create a first section of a representation of the signal transmitted by a first of said transmitters, and to create a second section of a representation of the signal transmitted by a second of said transmitters, each of which sections overlaps in time with the section created at the terminal;

(c) processing means arranged to create a first function dependent on the first section and the section created at the terminal in step (a), and convolve the first section with the first function to form a blurred estimate of the signal received at the terminal from the first transmitter;

(d) processing means arranged to create a second function dependent on the first section and the section created at the terminal in step (a), and convolve the terminal section with the second function to form a blurred terminal section;

(e) processing means arranged to subtract the blurred estimate from the blurred terminal section to produce a blurred residual representation; and

(f) processing means arranged to estimate the time offset between the blurred residual representation and the second section.

24.   (Original) Apparatus for finding the time offset relative to a reference within the terminal of a component of a signal transmitted by one of a plurality of transmitters of a communications network and received by a receiver attached to a terminal, the apparatus comprising

(a) processing means arranged to create at the terminal a section of a representation of the signals from the transmitters received by the

receiver (a "terminal section");

(b) processing means arranged to create a section of a representation of the signal transmitted by an other transmitter (a "transmitter section");

(c) processing means arranged to create a first function dependent on the terminal section and the transmitter section created in steps (a) and (b), and convolve the terminal section with the first function to form a blurred estimate of the signal received at the terminal from the other transmitter;

(d) processing means arranged to create a second function dependent on the terminal section and the transmitter section created in steps (a) and (b),

and convolve the terminal section with the second function to form a blurred terminal section;

(e) processing means arranged to subtract the blurred estimate from the blurred terminal section to produce a blurred residual representation; and

(f) processing means arranged to estimate the time offset between the blurred residual representation and the signal component.

25.   (Currently Amended) A telecommunications terminal having an~~including~~ apparatus for finding the time offset between signals transmitted by at least one of a plurality of transmitters of a communications network and received by a receiver attached to a terminal, the apparatus comprising

(a)   processing means arranged to create at the terminal a section of a representation of the signals from the transmitters received by the receiver;

(b)   processing means arranged to create a first function dependent on a first section of a representation of the signal transmitted by a first of said transmitters which overlaps in time with the section created at the terminal and which is sent to the terminal and the section created at

the terminal in step (a), and convolve the first section with the first function to form a blurred estimate of the signal received at the terminal from the first transmitter;

(c)   processing means arranged to create a second function dependent on the first section and the section created at the terminal in step (a), and convolve the section created at the terminal with the second function to form a blurred terminal section;

(d)   processing means arranged to subtract the blurred estimate from the blurred terminal section to produce a blurred residual representation; and

(e)   processing means arranged to estimate the time offset between the blurred residual representation and a second section of a representation of the signal transmitted by a second of said transmitters which overlaps in time with the section created at the terminal and which is sent to the terminal.

26.   (Currently Amended) A telecommunications terminal ~~including~~having an apparatus for finding the time offset relative to a reference within the terminal of a component of a signal transmitted by one of a plurality of transmitters of a communications network and received by a receiver attached to a terminal, the apparatus comprising

(a)   processing means arranged to create at the terminal a section of a representation of the signals from the transmitters received by the receiver (a "terminal section");

(b)   processing means arranged to create a first function dependent on the terminal section and a section of a representation of the signal transmitted by another transmitter (a "transmitter section") which is sent to the terminal, and convolve the terminal section with the first function to form a blurred estimate of the signal received at the terminal from the other transmitter;

(c)   processing means arranged to create a second function dependent on the transmitter section and the terminal section created at the terminal, and convolve the terminal section with the second function to form a blurred terminal section;

(d)   processing means arranged to subtract the blurred estimate from the blurred terminal section to produce a blurred residual representation; and

(e)   processing means arranged to estimate the time offset between the blurred residual representation and the signal component.

27.   (Original)   A communications network for finding the time offset between signals transmitted by at least one of a plurality of transmitters of a communications network and received by a receiver attached to a terminal, the network comprising

(a)   a computing device or devices;

(b)   a terminal having a radio receiver attached to the terminal, means for creating a section of a representation of the signals, received by the radio receiver, from the transmitters of the communications network, and means for sending the section to the computing device or devices;

(c)   sampling devices associated with respective first and second of said transmitters for creating respective first and second sections of representations of the signal transmitted by the respective transmitter which overlap in time with the section created at the terminal, and for sending the sections of the representations created at said transmitters to said computing device or devices;

the computing device or devices being adapted to perform

1   creation of a first function dependent on the first section and the section created at the terminal, and a convolution of the first section with the first function to provide a blurred estimate of the signal

received at the terminal from the first transmitter;

2 creation of a second function dependent on the first section and the
   section created at the terminal, and a convolution of the section
   created at the terminal with the second function to provide a blurred
   terminal section;

3 a subtraction of said blurred estimate from the blurred terminal
   section to produce a blurred residual representation;

4 a calculation of the time offset between the blurred residual
   representation and said second section.

28.   (Original) A communications network for finding the time offset
relative to a reference within the terminal of a component of a signal
transmitted by one of a plurality of transmitters of a communications network
and received by a receiver attached to a terminal, the network comprising

(a)   a computing device or devices;

(b)   a terminal having a radio receiver attached to the terminal,
means for creating a section of a representation of the signals, received
by the radio receiver,   from the transmitters of the communications
network (a "terminal section"), and means for sending the section to the
computing device or devices;

(c)   a sampling device associated with an other transmitter for
creating a section of a representation of the signal transmitted by the
other transmitter (a "transmitter section") which overlaps in time with
the section created at the terminal, and for sending the section of the
representations created at the other transmitter to said computing device
or devices;

the computing device or devices being adapted to perform

1 creation of a first function dependent on the transmitter section and
   the terminal section, and a convolution of the transmitter section
   with the first function to provide a blurred estimate of the signal

received at the terminal from the other transmitter;

2   creation of a second function dependent on the transmitter section and the terminal section, and a convolution of the terminal section with the second function to provide a blurred terminal section;

3   a subtraction of said blurred estimate from the blurred terminal section to produce a blurred residual representation;

4   a calculation of the time offset between the blurred residual representation and the signal component.

29.   (Original) A computing device or devices for use in a communications network comprising a terminal having a radio receiver attached to the terminal, means for creating a section of a representation of the signals, received by the radio receiver, from the transmitters of the communications network, and means for sending the section to the computing device or devices; and sampling devices associated with respective first and second of said transmitters for creating respective first and second sections of representations of the signal transmitted by the respective transmitter which overlap in time with the section created at the terminal, and for sending the sections of the representations created at said transmitters to said computing device or devices, the computing device or devices being adapted to perform

1   creation of a first function dependent on the first section and the section created at the terminal, and a convolution of the first section with the first function to provide a blurred estimate of the signal received at the terminal from the first transmitter;

2   creation of a second function dependent on the first section and the section created at the terminal, and a convolution of the section created at the terminal with the second function to provide a blurred terminal section;

3   a subtraction of said blurred estimate from the blurred terminal section to produce a blurred residual representation;

4   a calculation of the time offset between the blurred residual

representation

and said second section.

30.   (Original) A computing device or devices for use in a communications network comprising a terminal having a radio receiver attached to the terminal, means for creating a section of a representation of the signals, received by the radio receiver, from the transmitters of the communications network (a "terminal section"), and means for sending the section to the computing device or devices; and a sampling device associated with an other transmitter for creating a section of a representation of the signal transmitted by the other transmitter (a "transmitter section") which overlaps in time with the section created at the terminal, and for sending the section of the representations created at the other transmitter to said computing device or devices, the computing device or devices being adapted to perform

1   creation of a first function dependent on the transmitter section and the terminal section, and a convolution of the transmitter section with the   first function to provide a blurred estimate of the signal received at the terminal from the other transmitter;

2   creation of a second function dependent on the transmitter section and the terminal section, and a convolution of the terminal section with the second function to provide a blurred terminal section;

3   a subtraction of said blurred estimate from the blurred terminal section to produce a blurred residual representation;

4   a calculation of the time offset between the blurred residual representation and the signal component.

31.   (Currently Amended) A computer program or programs comprising computer program code means stored on a computer-readable medium and adapted ~~to perform the steps of the computing device of claim 29~~for use in a

communications network comprising a terminal having a radio receiver
attached to the terminal, means for creating a section of a representation of the
signals, received by the radio receiver, from the transmitters of the
communications network, and means for sending the section to the computing
device or devices; and sampling devices associated with respective first and
second of said transmitters for creating respective first and second sections of
representations of the signal transmitted by the respective transmitter which
overlap in time with the section created at the terminal, and for sending the
sections of the representations created at said transmitters to said computing
device or devices, the computer program being adapted to perform

    1   creation of a first function dependent on the first section and the
section created at the terminal, and a convolution of the first section
with the first function to provide a blurred estimate of the signal
received at the terminal from the first transmitter;

    2   creation of a second function dependent on the first section and the
section created at the terminal, and a convolution of the section
created at the terminal with the second function to provide a blurred
terminal section;

    3   a subtraction of said blurred estimate from the blurred terminal
section to produce a blurred residual representation;

    4   a calculation of the time offset between the blurred residual
representation
and said second section.

32.   (Currently Amended) A computer program or programs comprising
computer program code means stored on a computer-readable medium and
adapted to perform the steps of the computing device of claim 30. for use in a
communications network comprising a terminal having a radio receiver

attached to the terminal, means for creating a section of a representation of the signals, received by the radio receiver, from the transmitters of the communications network (a "terminal section"), and means for sending the section to the computing device or devices; and a sampling device associated with an other transmitter for creating a section of a representation of the signal transmitted by the other transmitter (a "transmitter section") which overlaps in time with the section created at the terminal, and for sending the section of the representations created at the other transmitter to said computing device or devices, the computing device or devices being adapted to perform

      1   creation of a first function dependent on the transmitter section and the terminal section, and a convolution of the transmitter section with the first function to provide a blurred estimate of the signal received at the terminal from the other transmitter;

      2   creation of a second function dependent on the transmitter section and the terminal section, and a convolution of the terminal section with the second function to provide a blurred terminal section;

      3   a subtraction of said blurred estimate from the blurred terminal section to produce a blurred residual representation;

      4   a calculation of the time offset between the blurred residual representation and the signal component.

33.   (Currently Amended) A method according to claim 1 further comprising the step of calculating the position of a mobile terminal in a communications

network which includes the method of any of claims 1 to 21.